

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
14 July 2005 (14.07.2005)

PCT

(10) International Publication Number
WO 2005/064936 A1

(51) International Patent Classification⁷: H04N 7/01

(21) International Application Number:
PCT/KR2004/002601

(22) International Filing Date: 12 October 2004 (12.10.2004)

(25) Filing Language: Korean

(26) Publication Language: English

(30) Priority Data:
10-2003-0097822

26 December 2003 (26.12.2003) KR

10-2004-0050464 30 June 2004 (30.06.2004) KR

(71) Applicant (for all designated States except US): Electronics and Telecommunications Research Institute [KR/KR]; 161, Gajeong-dong, Yuseong-gu, Daejeon 305-350 (KR).

(72) Inventors; and

(75) Inventors/Applicants (for US only): LEE, Hyun [KR/KR]; #2-303 Garam Villa, 149-13, Sinseong-dong, Yuseong-gu, Daejeon 305-804 (KR). LEE, Gwang-Soon [KR/KR]; #407-302 Yeolmaemaoul Apt., Jijok-dong,

Yuseong-gu, Daejeon 305-770 (KR). YANG, Kyu-Tae [KR/KR]; #108-204 Narae Apt., Jeonmin-dong, Yuseong-gu, Daejeon 305-729 (KR). LEE, Bong-Ho [KR/KR]; #204-707 Songgangmaeul Apt., Songgang-dong, Yuseong-gu, Daejeon 305-753 (KR). HAHM, Young-Kwon [KR/KR]; #133-101 Hanbit Apt., Eoeun-dong, Yuseong-gu, Daejeon 305-755 (KR). LEE, Soo-In [KR/KR]; #106-606 Clover Apt., Dunsan 1-dong, Seo-gu, Daejeon 302-772 (KR).

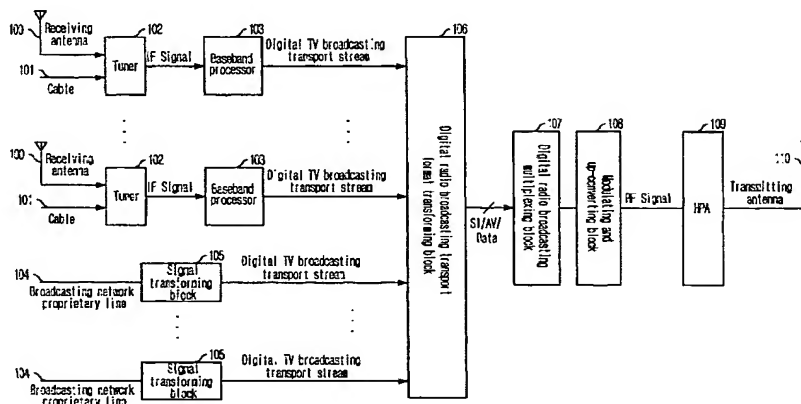
(74) Agent: SHINSUNG PATENT FIRM; 2F, Line Bldg., 823-30,, Yeoksam-dong, Kangnan-ku, Seoul 135-080 (KR).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH,

[Continued on next page]

(54) Title: APPARATUS AND METHOD FOR TRANSFORMING A DIGITAL TV BROADCASTING SIGNAL TO A DIGITAL RADIO BROADCASTING SIGNAL



(57) Abstract: The present invention relates to an apparatus for transforming digital TV broadcasting signals into digital radio broadcasting signals and a method thereof. The apparatus includes: a transport stream generator for transforming TV broadcasting signals outputted from outside into digital TV broadcasting transport streams; a broadcasting transport format transformer for generating digital radio broadcasting transport streams by transforming the digital TV broadcasting transport streams in conformity to a digital radio broadcasting transport protocol based on a radio broadcasting schedule; a digital radio broadcasting multiplexer for multiplexing the generated digital radio broadcasting transport streams generated in the broadcasting transport format transformer; a modulating/up-converting unit for modulating the multiplexed digital radio broadcasting transport streams in a modulation method of digital radio broadcasting and up-converting frequencies of the modulated radio broadcasting signals into radio frequency (RF) signals; and a high-power amplifier for amplifying and transmitting the up-converted RF signals through a transmitting antenna.



GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— *with international search report*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.